Weekly Summary Report
USEPA Oversight, Sauget Area 2, Sauget, IL
WA No. 224-RXBF-05XX / Contract No. 68-W6-0025

Week Ending Friday, July 2, 2004

This report summarizes the Interim Remedial Action (IRA) work conducted by Solutia and its contractors from June 28 through July 1, 2004 at Site R, Sauget Area 2. No work was performed on Friday July 2, 2004, due to the Independence Day holiday weekend. The current IRA fieldwork consists of site preparation, barrier wall trenching, and backfilling.

Contractors Onsite

Inquip Associates Inc. (barrier wall construction contractor)
PSI (geotechnical testing subcontractor)
Klein-Schimdt Landscaping (subcontractor to Solutia)
URS (primary consultant for Solutia)

Work Performed This Week

The primary activities conducted during the week were backfilling, trench cleanout and further excavation of the trench. Along the southern leg of the barrier wall alignment, the trench was excavated to total depth to the terminating end at station 5+00. Backfill was placed on 4 days during the week and has began to stack at the trench terminus at station 5+00.

Trench cleaning was performed on four days during the week at the southeastern corner of the site. The Liebherr 853 rig was used for trench cleanout on June 28 and was subsequently moved to the northern end of Site R. The Liebherr 855 mechanical clamshell was used for cleanout activities on three days during the week and was also utilized to move the desander and slurry pumps into position at the south end of the excavation. Assembly of the recently delivered Liebherr 843 rig began this week.

The Koehring 1266 long-arm trackhoe started excavation during the week along the northern alignment of the barrier wall, between stations 24+60 and 26+20. The trackhoe is starting to cut a fresh one-to-one slope, through the placed backfill, to allow for trench excavation in a northerly proceeding direction. Subsequently the Liebherr 853 rig will start excavation in the northern open trench segment to complete excavation to total depth, tying into the previously excavated and backfilled trench at a ten-foot overlap to the northern-most total depth excavation of the trench.

Groundwater Migration Control System (GMCS)

The river elevation showed a slight decreasing trend during the week; a river level of 404.83 feet above mean seal level (amsl) was observed on June 25, decreasing to 401.53 feet amsl on July 1, 2004. Correspondingly, the combined flow rate of the extraction well system increased from 430 gallons per minute (gpm) on June 25 to 568 gpm on July 1, 2004.

Eight barrier wall piezometers, with four inside and four outside the barrier wall alignment, monitored the groundwater elevations adjacent to the barrier wall alignment during the week.

Table 1 shows the river and piezometer water elevations measured on July 1, 2004 (1:00 PM). Piezometer pairs P2, P3 and P4, located in the center and south side of Site R, showed water levels greater outside the barrier wall than inside, with approximately one half foot to two feet difference in elevation. In general the gradient across the barrier wall, while still indicating inward flow to Site R, decreased in magnitude throughout the week as the river level and 'outside-wall' piezometers dropped more swiftly in elevation than water levels inside the barrier wall. At piezometer P1S and P1N, the water levels averaged approximately one half foot higher inside the barrier wall alignment; however, it should be noted that the barrier wall is not yet constructed in this area. The river elevation was generally four feet higher than water levels measured at all piezometers throughout the week, indicating an inward groundwater flow from the river toward Site R.

TABLE 1
River and Piezometer Water Elevations – July 1, 2004 (1:00 pm)

	Elevation (ft above mean sea level)
River Level	401.53
Piezometer 1S – inside wall (northern-most pair)	397.81
Piezometer 1N – outside wall (northern-most pair)	396.48
Piezometer 2E – inside wall (north-central pair)	397.55
Piezometer 2W – outside wall (north-central pair)	397.96
Piezometer 3E – inside wall (south-central pair)	396.77
Piezometer 3W – outside wall (south-central pair)	398.10
Piezometer 4E – inside wall (southern-most pair)	396.18
Piezometer 4W – outside wall (southern-most pair)	397.85

Stormwater

No stormwater activities occurred during the week.

Slurry Mixing

Approximately 49 tons of bentonite gel were used to mix fresh slurry on two days during the week. The slurry, when pumped from the south holding pond to the northern open trench segment near station 24+50, was tested frequently to assess its viscosity and adjusted with a blending pump using water from the fire hydrant, as necessary. The viscosity of the slurry was measured using a Marsh funnel, with results generally meeting the specification. [Note that beginning on July 1, trench slurry that had been temporarily stored in the containment pond constructed on top of the landfill was also pumped into the northern open trench segment.]

Spoils Handling

During the week, spoils were transferred from the excavation area along the southern leg of the barrier wall alignment to either the temporary stockpile area on top of the landfill or to the backfill mix pad.

Barrier Wall Construction

The Koehring 1266 trackhoe was used to begin excavation at station 24+50 continuing the north-south alignment of the barrier wall, excavating initially through the placed backfill to develop a new lead-in (1:1) slope for the open trench excavation as it proceeds in a northerly direction.

As of July 1, the southern open trench segment was approximately 1,130 feet in length along the barrier wall alignment from station 5+00 to station 14+60. The northern open trench segment was opened to 180 feet in length extending from station 24+50 to station 26+20 (please refer to Solutia's map for locations).

Fresh bentonite slurry was pumped into the open trench as needed to keep the excavation on the north end of the site open on four days during the week. Slurry samples were collected from the top and the bottom of the trench daily; fresh and trench slurry samples were tested for viscosity, density (unit weight), filtrate loss, pH and sand content during the week. All the results either met the specifications or satisfied the quality targets. The mechanical desander operated daily throughout the week, however the intake valve frequently became plugged and the desander was stopped and cleaned. The desander was moved on June 28, with use of the Liebherr 855 crane, to station 6+00.

During the week, Inquip mixed and placed into the trench approximately 1,470 cubic yards of backfill materials. Backfill operations took place on four days during the week. The backfill consisted of spoils with the addition of two percent bentonite.

The backfill was tested by PSI for slump, unit weight and moisture content. The unit weight of backfill placed during the week measured between 123 and 126 pounds per cubic foot (pcf). Slump test results were between 4 to 4.5 inches, and the moisture content results ranged from 21.2 to 23.2 percent. All test results met the minimum requirements. Tests on the backfill mixture to be conducted offsite included permeability and gradation.

On June 28, 29, and 30, the bottom of the trench at and ahead of the backfill toe was cleaned using the clamshell rig prior to the backfill placement. Depth-to-bottom measurements were made every 10 linear feet of trench to ensure the bottom of the trench was at a consistent depth and on top of bedrock. These depth measurements were performed with the clamshell rig's instrumentation and were manually confirmed at two locations with the downrigger (plumbob on wire). By July 1, the backfill toe had moved to the southern leg terminus of the trench at station 5+00. Subsequently, the downrigger was used to confirm top of backfill at the toe of the slope and the clamshell rig was used to remove the top layer of backfill within the trench. On a daily basis, two samples were collected by PSI with a clam sampler from the top of the placed backfill in the trench prior to backfill placement. These samples were visually checked to ensure that the backfill surface in the trench was clean and free of any sand.

During the week, the trench depths were measured each afternoon. The trench depth measurements from the profile measured on the afternoon of July 1 are shown in Table 2 and depicted in Graphs 1 and 2 (for the southern and northern open trench segments) in

comparison to the trench depth profile measured on June 25. Graph 3 shows the overall progress of the barrier wall construction.

Other Activities

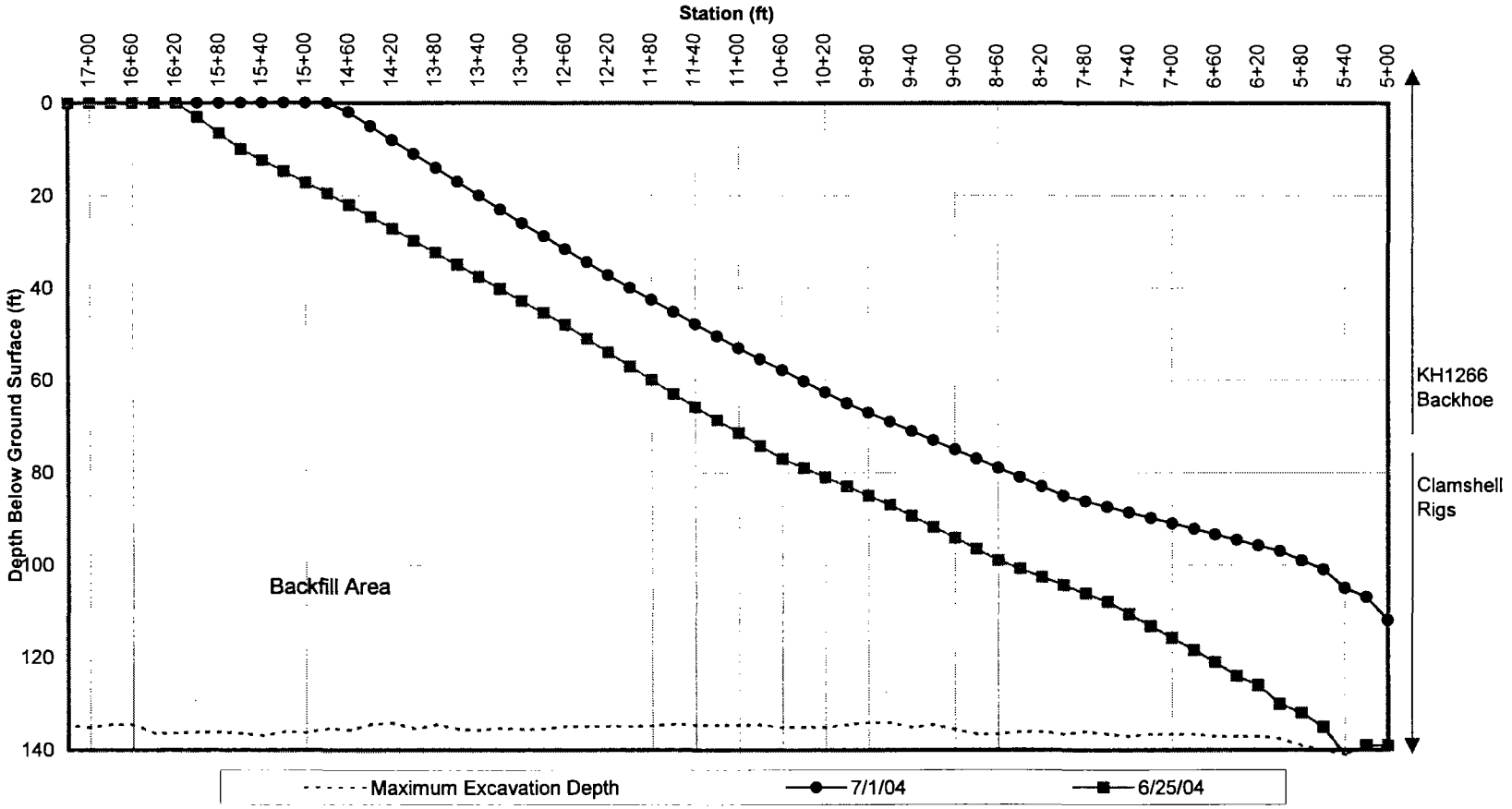
Inquip continued construction of the work pad at the northwest corner of Site R.

Klein-Schmidt Landscaping was on site removing vegetation from the northern Site R fence in order to improve accessibility to the river gauge off of the northwest corner of the site.

TABLE 2
Trench Profile (Downrigger Measurements) for the Barrier Wall Trench – July 1, 2004 (PM)

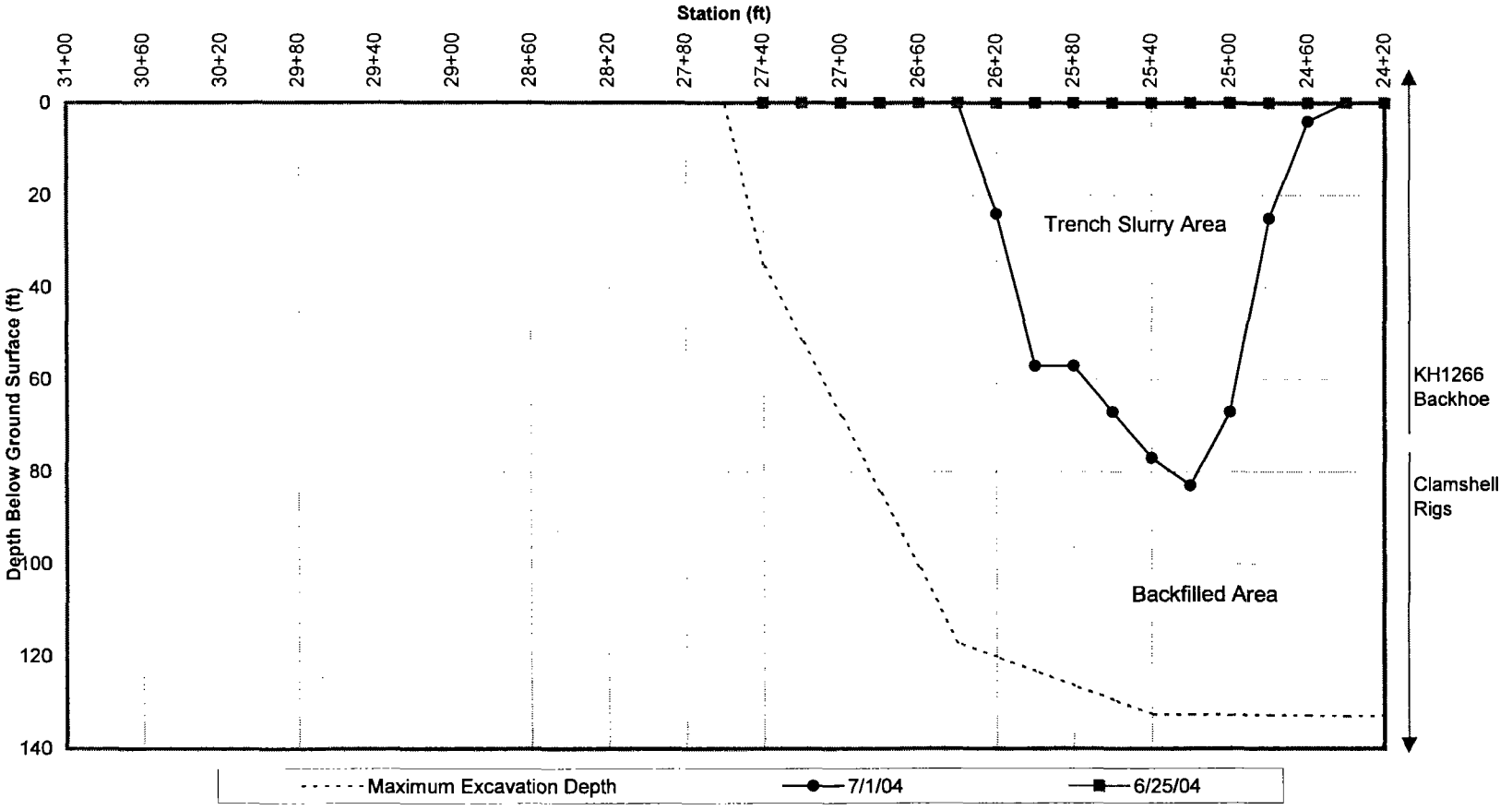
Trench Segment	Station ID	Depth to bottom (ft below ground surface)
Southern Open Trench	5+00	112
	5+20	107
	5+40	105
	5+60	101
	5+80	99
	6+00	97
	7+00	91
	8+00	85
	9+00	75
	10+00	65
	11+00	53
	12+00	40
	13+00	26
	14+00	11
	14+60	2
Northern Open Trench	24+50	4
	24+75	25
	25+00	67
	25+25	83
	25+50	77
	25+75	57
	26+00	57
	26+20	24

Graph 1 - Weekly Barrier Wall Construction Progress - Southern Open Trench Segment
June 28 through July 1, 2004



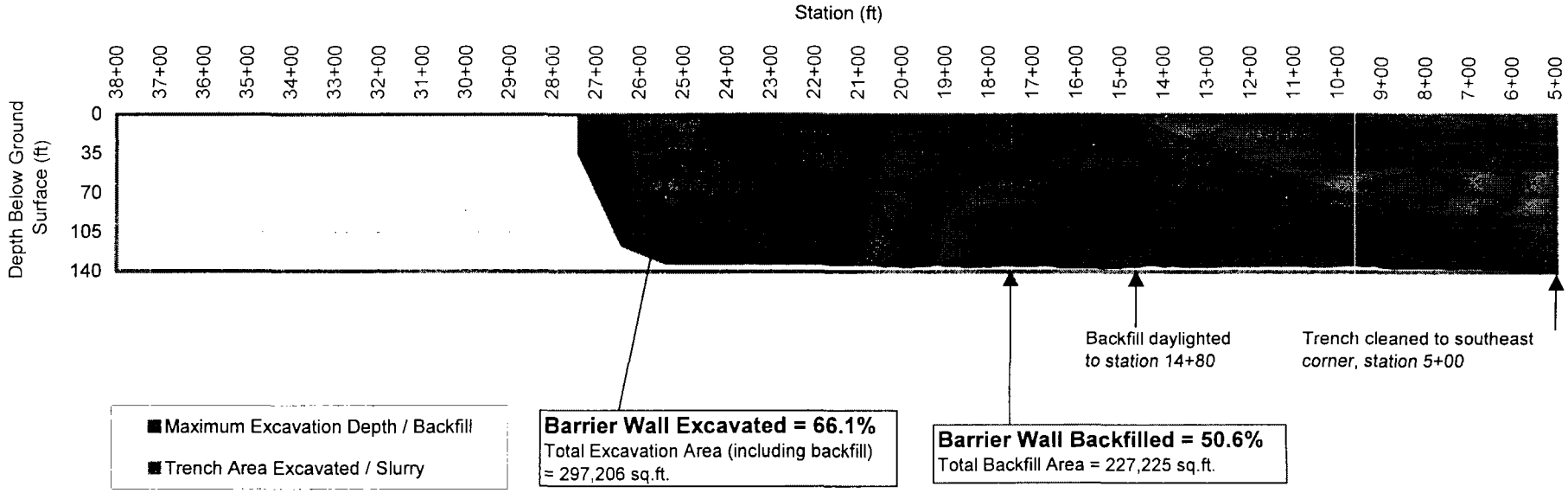
Note: Data plotted for the week through PM measurements on 6-25-04 and 7-1-04.
Some data points are interpolated between the available data points where trench depth measurements were read.

Graph 2 - Weekly Barrier Wall Construction Progress - Northern Open Trench Segment
June 28 through July 1, 2004



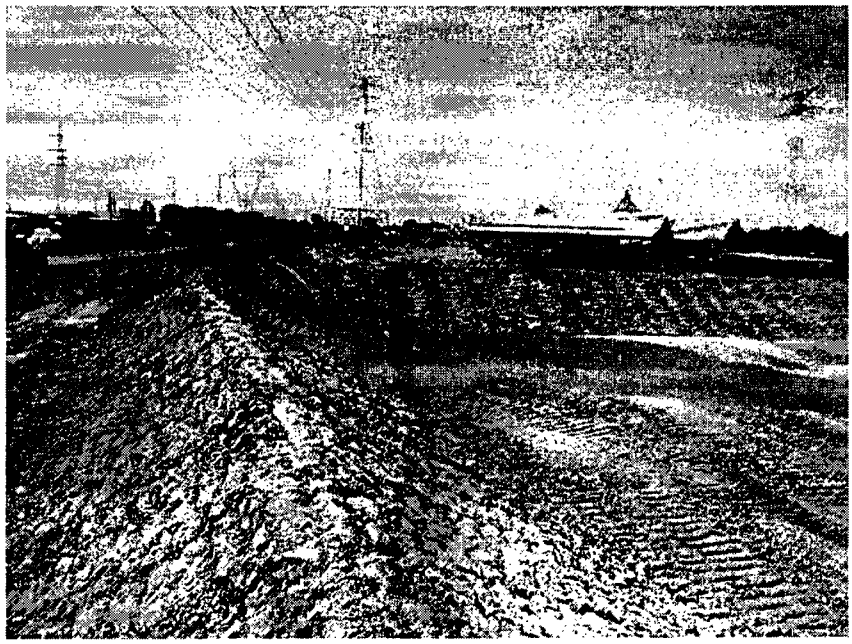
Note: Data plotted for the week through PM measurements on 6-25-04 and 7-1-04.
Some data points are interpolated between the available data points where trench depth measurements were read.

Graph 3 - Barrier Wall Construction Progress by July 1, 2004 (PM)



Note: Data plotted for week through PM measurements on 7-1-04.

Photos from June 28 through July 1, 2004:



The northern containment pond on top of the landfill began to receive slurry pumped from the southern open trench segment (June 29, 2004).

Assembly of the Liebherr 843 clamshell rig commenced during the week (June 30, 2004).